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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/884,090	06/20/2001	Yasuo Matsumura	109890	2361

7590 02/26/2003

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DOTE, JANIS L

ART UNIT	PAPER NUMBER
1756	11

DATE MAILED: 02/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/854,090	Applicant(s) MATSUMURA et al #11
	Examiner J. DOTE	Group Art Unit 1756

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If th period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

☒ Responsive to communication(s) filed on 12/12/02.

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1-20 is/are pending in the application.

Of the above claim(s) 15-20 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-14 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).

☒ All ☐ Some* ☐ None of the:

☒ Certified copies of the priority documents have been received.

☐ Certified copies of the priority documents have been received in Application No. _____.

☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____.

Attachment(s)

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☒ Notice of Reference(s) Cited, PTO-892

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Interview Summary, PTO-413

☐ Notice of Informal Patent Application, PTO-152

☐ Other _____

Office Action Summary

1. The examiner acknowledges the amendments to claims 5 and 11 filed in Paper No. 10 on Dec. 12, 2002. Claims 1-20 are pending.

2. Applicants' election with traverse of the invention of Group I, claims 1-14 in Paper No. 10 is acknowledged. The traversal is on the ground(s) that because the method of making claims in Group II and the method of using claims in Group III include all the limitations of the product claims of Group I, the method claims must be rejoined with the product claims once the product claims are allowed. See Paper No. 10, page 7, lines 15-23. Applicants also assert that a search for any one group would encompass a search of the subject matter of the remaining groups, because "the subject matter of Groups I and II and III is sufficiently related." Applicants further assert that the "subject matter is sufficiently overlapping that concurrent search of all the claims does not create a serious burden."

This is not found persuasive because applicants have not controverted the reasons set forth in the restriction requirement that the inventions of Groups I through III are patentably distinct. The searches for the toner, process of making, and process of using are not co-extensive. A search for the toner does not require a search in the process-of-making subclass 430/137.14, or in the process-of-using subclass 430/126. The distinct and exclusive mandatory searches for the toner in

Group I, the different processes in Groups II and III, and the distinct issues of patentability, establish an undue burden on the Office. In addition, product claims 1-14 are not allowable for the reasons set forth infra.

The requirement is still deemed proper and is therefore made FINAL.

Claims 15-20 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicants have timely traversed the restriction requirement in Paper No. 10.

3. The rejections of claim 1, 11, and 12 under 35 U.S.C. 112, second paragraph, set forth in the office action mailed Sep. 13, 2002, Paper No. 9, paragraph 10, have been withdrawn in response to applicants' comments in Paper No. 10, and the amendment to claim 11. Applicants state that the phrase "element derived from the releasing agent" "clearly indicates that the elements referred to are the chemical components of the releasing agent." Applicants also state that the phrase "elements on the surface of the toner" refers "to all chemical components that form the surface, including the binder resin and colorant." See Paper No. 10, paragraph bridging pages 8 and 9. The instant specification discloses that the "exposure amount of the

releasing agent on the toner surface can be quantitatively determined by X-ray photoelectron spectroscopy (XPS) . . . [where] the spectra of the respective materials constituting the toner, i.e., the binder resin, the colorant and the releasing agent, are measured . . . [s]pecifically, it is determined in terms of a proportion of elements ascribed to the releasing agent measured by XPS." The instant specification, the paragraph bridging pages 9 and 10. Accordingly, the phrase "element derived from the releasing agent" and "elements on the surface of the toner" refer to the element of the releasing agent and elements of toner materials, i.e., binder resin, the colorant, and releasing agent, determined by XPS on the surface of the toner.

4. The amendment filed in Paper No. 10 on Dec. 12, 2002, is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

The replacement paragraph at page 5, line 19, of the specification, filed in Paper No. 10, now states that the parameter "n represents a [sic: the] number of particles in a channel of a particle size analyzing apparatus that uses the

Coulter principle, such as a Coulter Counter" (emphasis added). The originally filed specification does not provide antecedent basis for said amended definition of parameter n. The originally filed specification at page 6, line 1, defines the parameter "n" as representing the number of particles in a channel of a Coulter Counter." COULTER COUNTER is a trademark. See TESS search report, serial no. 72062272. There is no evidence on the present record showing that the originally disclosed COULTER COUNTER is a "particle size analyzing apparatus that uses the Coulter principle" as now disclosed in the replacement paragraph. Nor is there anything in the record indicating that "the Coulter principle" is a term of art, the meaning of which is known to those skilled in the art.

Applicants are required to cancel the new matter in the reply to this Office Action.

5. The disclosure is objected to because of the following informalities:

The use of trademarks, e.g. Coulter Counter [sic: COULTER COUNTER] in the replacement paragraph at page 5, line 19, of the specification, filed in Paper No. 10, has been noted in this application. The trademarks should be capitalized wherever they appear and be accompanied by the generic terminology. This

example is not exhaustive. Applicants should review the entire specification for compliance.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Appropriate correction is required.

Applicants' arguments filed in Paper No. 10 have been fully considered but they are not persuasive. Applicants assert that the specification has been amended to overcome the objection. However, as set forth supra, applicants' amendment filed in Paper No. 10 did not capitalize all the trademarks mentioned in the instant specification. Accordingly, the objection stands.

6. The examiner notes that the surface property index recited in instant claim 13 is defined in the instant specification in the replacement paragraph at page 5, line 19, of the specification, filed in Paper No. 10. The index GSDv recited in instant claim 14 is defined in the instant specification at page 6, lines 16-18.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 5, 6, and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 5 and 6 are indefinite because the parameters "n" and "R" defined as representing "a number of particles in a channel" and "a channel particle diameter" in "a particle size analyzing apparatus, which utilizes the Coulter principle." It is not clear what is meant by the phrase "utilizes the Coulter principle." The originally filed specification does not define a Coulter principle. Rather, the originally filed specification merely discloses the use of a COULTER COUNTER. See the originally filed specification at page 6, lines 1-3.

Claim 13 is indefinite because the surface property index is determined by the trademark COULTER COUNTER. See the instant specification, the replacement paragraph at page 5, line 19, of the specification, filed in Paper No. 10. The same trademark can be used to identify different apparatuses or products depending on the desire of the owner. The apparatus associated with the trademark at the time the invention was made may not be the same as the apparatus at a later date, and may not be the same

apparatus as in the past. The trademark does not refer to a definite apparatus. Thus, the claim is indefinite.

Claim 13 is further indefinite because the replacement paragraph at page 5, line 19, further discloses that the parameter "n represents a [sic: the] number of particles in a channel of a particle size analyzing apparatus that uses the Coulter principle, such as a Coulter Counter" (emphasis added) for the reasons discussed with respect to claim 5.

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 5, 6, and 13 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 5 and 6 recite that the parameters "n" and "R" are defined as representing "a number of particles in a channel" and "a channel particle diameter" in "a particle size analyzing apparatus, which utilizes the Coulter principle."

In claim 13, the surface property index is determined by the parameter "n" which "represents a number of particles in a channel of a particle size analyzing apparatus that uses the Coulter principle, such as a Coulter Counter" (emphasis added).

The originally filed specification does not provide an adequate written description of the parameters "n" and "R" as recited in instant claims 5, 6, and 13. The originally filed specification at page 6, line 1, defines the parameter "n" as representing "a number of particles in a channel of a Coulter Counter." The originally filed specification at page 6, lines 1-12, defines the parameter "R" as representing "a channel particle diameter in the Coulter Counter." COULTER COUNTER is a trademark. See TESS search report, serial no. 72062272. There is no evidence on the present record showing that the originally disclosed COULTER COUNTER is a "particle size analyzing apparatus" that utilizes the "Coulter principle" as now recited in the instant claims and in the replacement paragraph. Nor is there anything in the record indicating that "the Coulter principle" is a term of art, the meaning of which is known to those skilled in the art.

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

13. Claims 1-6 and 8-14 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 6,002,662 (Matsumura'662) combined with the admissions in the instant specification at page 7, lines 10-17, page 11, lines 10-12, and in embodiment 3 at page 26, line 19, to page 28, line 5.

Matsumura'662 discloses a developer comprising a carrier and a toner comprising toner particles comprising a binder resin, a colorant, and the releasing agent paraffin wax having a melting point of 85°C. See example 1 at cols. 19-21. The paraffin wax is within the compositional limitation recited instant claim 11. Matsumura'662's toner has a volume average particle size of

6.0 μm and a volume GSD of 1.23, which are within the ranges recited instant claims 8, 10, and 14.

Matsumura'662 toner is obtained by: (1) mixing resin particle dispersions (1) and (2), a pigment dispersion, and a releasing agent dispersion comprising the paraffin wax; (2) heating the mixture at 48°C for 30 minutes to obtain flocculated or aggregated particles having an average particle diameter of 5.4 μm; (3) gradually adding 60 grams of the resin particle dispersion (1) to the flocculated particles of step (2); (4) heating the mixture of step (3) at 50°C for one hour; (5) heating the mixture of step (4) at 95°C for 5 hours; and (6) cooling, filtering, and washing the mixture of step (5) to obtain toner particles.

Matsumura'662 does not disclose that its toner has the protrusions and the amount of releasing agent on the surface of the toner as recited in the instant claims. Nor does Matsumura'662 disclose that his toner particles have the surface property index as recited in instant claims 5, 6, and 13, or the shape factor SF1 recited in instant claim 9.

However, the toner in Matsumura'662's example 1 appears to have been prepared within the process limitations described in the instant specification at page 7, lines 10-17, which make a toner having the protrusions and the amount of releasing agent on the surface of the toner as recited in the instant claims.

Matsumura'662's process appears also to be substantially the same as or very similar to the process exemplified in embodiment 3 of the instant specification. Matsumura'662's aggregation step (2) and heating step (5) are within the limitations of disclosed at page 7 of the instant specification. The instant specification at page 11, lines 10-12, discloses that "migration of the releasing agent [into the protrusions] can be effected by maintaining a temperature in the range of ± 20°C from the melting point of the releasing agent for a period of from 2 to 10 hours." As described above, Matsumura'662's heating step (5) is performed at 95°C for 5 hours. The temperature 95°C is 10°C higher than the melting point of Matsumura'662's paraffin wax of 85°C. Embodiment 3 of the instant specification comprises the steps of: (1) heating the mixture of resin particle dispersion, a colorant dispersion, and a releasing agent dispersion at 45°C for 30 minutes to form aggregated particles; (2) adding a resin particle dispersion to the aggregated particles and heating the mixture at a temperature of 48°C for one hour; (3) heating the mixture of step (2) at a temperature 98°C for 6 hours. Embodiment 3 uses the same releasing agent as Matsumura'662. Embodiment 3's steps (1), (2), and (3) are similar to the steps in Matsumura'662's process in example 1. The toner in embodiment 3 has a volume average particle size of 5.0 μm, a volume GSD of 1.20, an SF1 of 116, and a surface property index

of 1.16. The SF1 and surface property index are both within the ranges recited in instant claims 9 and 6, respectively. The toner also has protrusions having a height of 1.5 μm and comprising the paraffin wax. The amount of wax present on the surface is 8.0% by atom. Both the protrusions and the amount of wax are within the ranges recited in instant claims. The range of "approximately from 0.1 to 1 μm" recited in instant claim 2 reads on the height of 1.5 μm. There is no evidence of record showing that heights of 1.5 μm lead to substantially different properties from heights of "approximately 1.0 μm." The toner of embodiment 3 has a fixability at 125°C and offset occurred at 240°C or higher. The toner had no problem in releasing, and provided uniform images.

As discussed above, Matsumura'662's toner meets the physical limitations recited in instant claims 8, 10, and 14. In addition, Matsumura'662's discloses that the "exposure of a wax substance on the surface of the toner particle was very slight and no free wax substance was found." Col. 21, lines 27-30. Said toner was shown to have satisfactory fixability at 125°C, and no offset was observed up to 210°C. Col. 21, lines 31-36. In addition, the toner continuously provided stable images for 50,000 copies. Col. 21, lines 52-55. Thus, it appears that Matsumura'662's toner provides the same properties sought by applicants.

Accordingly, it is reasonable to presume that the toner in Matsumura'662's example 1 has protrusions, the amount of wax, the SF1, and the surface property index as recited in the instant claims. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

Applicant's arguments filed in Paper No. 10 have been fully considered but they are not persuasive.

Applicants assert that Matsumura'662's toner does not possess protrusions or the amount of releasing agent on surface of the toner particles. Applicants assert that the examiner's assertion is "based on an incomplete comparison of the cited methods, and thus an incomplete comparison of the toner compositions." Applicants assert that the toner recited in the instant claims is obtained by a method that includes "a pH adjustment step," which is not described by the prior art. Applicants reference page 27, lines 15-20, of the instant specification. Applicants allege that "sodium hydroxide is added to maintain a pH of about 6 during the fusing and integration of the particles before the temperature is increased" (emphasis in the original), which "softens the surface of the toner sufficiently so that the surface protrusions on the toner particle can be formed."

However, applicants' assertions and allegations are mere attorney argument. There is no evidence on the present record to

show that the pH adjustment step or the addition of sodium hydroxide is required to form the surface protrusions on the toner particle surface. Nor is there any evidence to support applicants' allegation that the pH of about 6 "softens the surface of the toner sufficiently so that the surface protrusions on the toner particle can be formed. Rather, as discussed in the rejection above, the instant specification at page 11, lines 10-12, discloses that "migration of the releasing agent [into the protrusions] can be effected by maintaining a temperature in the range of ± 20°C from the melting point of the releasing agent for a period of from 2 to 10 hours." Furthermore, the instant specification discloses that "the melting point and the viscosity of the releasing agent, the heating temperature and the heating time are important factors for controlling the structure of the toner." Instant specification, page 11, lines 5-7. In comparative example 1, the toner is produced in the same manner as in embodiment 2, which comprises the step of adding 15 g of 1 N sodium hydroxide solution; but the temperature for fusing is lowered from 96°C to 90°C. The resulting toner in comparative example 1 comprised protrusions having a height of 0.20 μm with no releasing agent present in the protrusions. However, the toner in embodiment 2 comprised protrusions having a height of 0.80 μm with releasing agent present in the protrusions. In comparative example 2, the

toner is produced in the same manner as in embodiment 3, but the temperature for fusing is raised to 102°C from 98°C, and the pH of the aggregated particle solution was set to "9.0, which is higher than the ordinary pH 6.0, to conduct fusion." The resulting toner in comparative example 2 comprised protrusions having a height of 2.5 μm with releasing agent present in the protrusions. However, the toner in embodiment 3 comprised protrusions having a height of 1.5 μm with releasing agent present in the protrusions. Thus, based on the limited evidence on the present record, the height of the protrusions on the toner surface and the presence of releasing agent in said protrusions appear to depend on the melting point and the viscosity of the releasing agent and on the heating temperature and the heating time used in the fusing step as taught by the instant specification at page 11.

As discussed in the rejection, supra, Matsumura'662's fusing step is within the teachings at page 11 of the instant specification. Furthermore, as discussed in the rejection, Matsumura'662's toner appears to provide the same properties sought by applicants. Matsumura'662's toner was shown to have satisfactory fixability at 125°C and no offset was observed up to 210°C. Matsumura'662's toner also provided stable images for 50,000 copies. For the toner in the instant specification's comparative example 1, no lowest fixing temperature could be

evaluated and offset occurred at 180°C. The toner in the instant specification's comparative example 2 provided images with uneven image density and fogging.

Furthermore, the process-of-making claims, which have been withdrawn from consideration, are not limited by pH. Applicants have also stated that the process-of-making claims include all the limitations of the product claims. See Paper No. 10, page 7, lines 15-17. This is further evidence that the presently claimed toner encompasses the toner taught by Matsumura'662.

Thus, applicants have not met their burden to show that Matsumura'662's toner does not posses the protrusions, the amount of wax, the SF1, and the surface property index as recited in the instant claims.

Applicants further assert that the office action appears "to ignore the ratio limitation between the elements derived from the releasing agent to the elements on the surface of the toner as determined by X-ray photoelectron spectroscopy" as recited in the instant claims.

However, the rejection does discuss the amount of releasing agent present on the surface of the toner. See the rejection, the third through sixth paragraphs. As acknowledged by applicants, the office action "asserts that the toner taught by Matsumura'662 would inherently posses these features [protrusions and amount of releasing agent on the surface of the toner as

recited in the instant claims]." See Paper No. 10, page 9, last paragraph. As discussed in paragraph 3, supra, the "ratio of the element derived from the releasing agent to the elements on the surface of the toner" recited in instant claim 1 refers to the amount of releasing agent present on the surface of the toner. See the instant specification in the paragraph bridging pages 9 and 10.

Accordingly, the rejection stands.

14. Claims 1-14 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 5,910,389 (Matsumura'389) combined with the admissions in the instant specification at page 7, lines 10-17, page 11, lines 10-12, and in embodiment 3 at page 26, line 19, to page 28, line 8.

Matsumura'389 discloses a developer comprising a carrier and a toner comprising toner particles comprising a binder resin, a colorant, and the releasing agent paraffin wax having a melting point of 85°C. See col. 19, lines 1-9, and example 3 at cols. 24-26. The paraffin wax is within the compositional limitation recited instant claim 11. The toner further comprises externally added hydrophobic silica TS720 in an amount of 1.0 part by weight to 100 parts by weight of the toner, which is within the range of 1 to 3 parts by weight recited in instant

claim 7. Hydrophobic silica TS720 is identified by the instant specification as having an average primary particle size of 12 nm, which is within the particle size range of 0.2 μm or less recited in instant claim 7. See the instant specification, embodiment 3, page 28, lines 7-8. Matsumura'389's toner has a volume average particle size of 5.7 μm, a volume GSD of 1.20, and a SF1 of 112, which are all within the ranges recited instant claims 8-10, respectively, and claim 14.

Matsumura'389's toner in example 3 is obtained by: (1) mixing resin particle dispersions (5) and (6), pigment dispersion (2), and releasing agent dispersion (1) comprising the paraffin wax; (2) heating the mixture at 45°C for 30 minutes to obtain flocculated or aggregated particles having an average particle diameter of 5.0 μm; (3) gradually adding 50 grams of resin particle dispersion (4) to the flocculated particles of step (2); (4) heating the mixture of step (3) at 47°C for one hour; (5) heating the mixture of step (4) at 100°C for 2 hours; and (6) cooling, filtering, and washing the mixture of step (5) to obtain toner particles.

Matsumura'389 does not disclose that its toner has the protrusions and the amount of releasing agent on the surface of the toner as recited in the instant claims. Nor does Matsumura'389 disclose that his toner particles have the surface property index as recited in instant claims 5, 6, and 13.

However, the toner in Matsumura'389's example 3 appears to have been prepared within the process limitations described in the instant specification at pages 7 and 11, which make a toner having the protrusions and the amount of releasing agent on the surface of the toner as recited in the instant claims. Matsumura'389's process appears also to be substantially the same as or very similar to the process exemplified in embodiment 3 of the instant specification. The description of the disclosures at pages 7 and 11, and in embodiment 3 of the instant specification set forth in paragraph 13 above are incorporated herein by reference. Matsumura'389's aggregation step (2) and heating step (5) are within the limitations of disclosed at pages 7 and 11 of the instant specification. As described above, Matsumura'389's heating step (5) is performed at 100°C for 2 hours. The temperature 100°C is 15°C higher than the melting point of Matsumura'389's paraffin wax of 85°C. Embodiment 3 uses the same releasing agent as Matsumura'389. Embodiment 3's steps (1), (2), and (3) are similar to the steps in Matsumura'389's process in example 1.

As discussed above, Matsumura'389's toner meets the physical limitations recited in instant claims 8-10 and 14. In addition, Matsumura'389's discloses that the "exposure of a waxy substance to the surface of the toner particle . . . was very slight and the amount of isolated waxy substance was very small." Col. 26,

lines 15-19. Said toner was shown to have satisfactory fixability at 125°C, and no offset was observed up to 190°C. Col. 26, lines 41-44. In addition, the toner continuously provided stable images for 10,000 copies with no "filming phenomena." The "efficiency of toner transfer from the photoreceptor to the image receiving paper during the continuous copying was as high as 95 to 98%." Col. 26, lines 44-51. Thus, it appears that Matsumura'389's toner provides the same properties sought by applicants.

According, it reasonable to presume that the toner in Matsumura'389's example 3 has protrusions, the amount of wax, and the surface property index as recited in the instant claims. The burden is on applicants to prove otherwise. Fitzgerald, supra.

Applicants' arguments filed in Paper No. 10 have been fully considered but they are not persuasive.

Applicants assert that Matsumura'389's toner does not possess the protrusions or the amount of releasing agent on surface of the toner particles for the reasons discussed regarding the rejection over Matsumura'662.

However, applicants' assertions and allegations are mere attorney argument. For the reasons discussed in paragraph 13, there is no evidence on the present record to show that the pH adjustment step or the addition of sodium hydroxide is required to form the surface protrusions on the toner particle surface.

Nor is there any evidence to support applicants' allegation that the pH of about 6 "softens the surface of the toner sufficiently so that the surface protrusions on the toner particle can be formed. Based on the limited evidence on the present record, the height of the protrusions on the toner surface and the presence of releasing agent in said protrusions appear to depend on the melting point and the viscosity of the releasing agent and on the heating temperature and the heating time used in the fusing step as taught by the instant specification at page 11.

As discussed in the rejection above, Matsumura'389's fusing step is within the teachings at page 11 of the instant specification. Furthermore, as discussed in the rejection, Matsumura'389's toner appears to provide the same properties sought by applicants. Matsumura'389's toner was shown to have satisfactory fixability at 125°C and no offset was observed up to 190°C. Matsumura'662's toner also provided stable images for 10,000 copies with no "filming phenomena."

Thus, applicants have not met their burden to show that Matsumura'389's toner does not posses the protrusions, the amount of wax, and the surface property index as recited in the instant claims.

Applicants further assert that the office action appears "to ignore the ratio limitation between the elements derived from the releasing agent to the elements on the surface of the toner as

determined by X-ray photoelectron spectroscopy" as recited in the instant claims. However, the rejection does discuss the amount of releasing agent present on the surface of the toner. See the rejection, the third through sixth paragraphs. As acknowledged by applicants, the office action "asserts that the toner taught by Matsumura'389 would inherently posses these features [protrusions and amount of releasing agent on the surface of the toner as recited in the instant claims]." See Paper No. 10, page 12, first paragraph. As discussed in paragraph 3, supra, the "ratio of the element derived from the releasing agent to the elements on the surface of the toner" recited in instant claim 1 refers to the amount of releasing agent present on the surface of the toner. See the instant specification in the paragraph bridging pages 9 and 10.

Accordingly, the rejection stands.

15. Claims 1-6 and 8-14 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 6,153,346 (Machata) combined with the admissions in the instant specification at page 7, lines 10-17, page 11, lines 10-12, and in embodiment 3 at page 26, line 19, to page 28, line 8; and applicants' comments in Paper No. 10, page 10, lines 14-17.

Claims 1-6 and 8-14 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Machata combined with the admissions in the instant specification at page 7, lines 10-17, page 11, lines 10-12, and in embodiment 3 at page 26, line 19, to page 28, line 8; and applicants' comments in Paper No. 10, page 10, lines 14-17.

Machata discloses a developer comprising a carrier and a toner comprising toner particles comprising a binder resin, a colorant, and the releasing agent paraffin wax having a melting point of 85°C. See example 2 at cols. 18-19. The paraffin wax is within the compositional limitation recited instant claim 11. The toner further comprises externally added hydrophobic silica TS720 in an amount of 0.43 g to 100 g of the toner. Hydrophobic silica TS720 is identified by the instant specification as having an average primary particle size of 12 nm. See the instant specification, embodiment 3, page 28, lines 7-8. Machata's toner has a volume average particle size of 6.0 μm, a volume GSD of 1.25, and a SF1 of 124, which are all within the ranges recited instant claims 8-10, respectively, and claim 14.

Machata's toner in example 2 is obtained by: (1) mixing resin particle dispersions (1) and (2), pigment dispersion (1), and releasing agent dispersion (1) comprising the paraffin wax; (2) heating the mixture at 48°C for 30 minutes to obtain flocculated or aggregated particles; (3) gradually adding

60 grams of resin particle dispersion (1) to the flocculated particles of step (2); (4) heating the mixture to 50°C for one hour to obtain agglomerated particles; (5) adding 1 N sodium hydroxide solution to the mixture of step (4) to raise the pH to 6 to stabilize the agglomerated particles; (6) heating the mixture of step (5) at 97°C for 3 hours; and (7) cooling, filtering, and washing the mixture of step (6) to obtain toner particles.

Machata does not disclose that his toner has the protrusions and the amount of releasing agent on the surface of the toner as recited in the instant claims. Nor does Matsumura'389 disclose that its toner particles have the surface property index as recited in instant claims 5, 6, and 13.

However, the toner in Machata's example 2 appears to have been prepared within the process limitations described in the instant specification at pages 7 and 11, which make a toner having the protrusions and the amount of releasing agent on the surface of the toner as recited in the instant claims. Machata's process appears also to be substantially the same as or very similar to the process exemplified in embodiment 3 of the instant specification. The description of the disclosures at pages 7 and 11, and in embodiment 3 of the instant specification set forth in paragraph 13 above are incorporated herein by reference. Machata's aggregation step (2) and heating step (6) are within

the limitations of disclosed at pages 7 and 11 of the instant specification. As described above, Machata's heating step (6) is performed at 97°C for 3 hours. The temperature 97°C is 12°C higher than the melting point of Machata's paraffin wax of 85°C. Embodiment 3 uses the same releasing agent as Machata. Embodiment 3's steps (1), (2), and (3) are similar to the steps in Machata's process in example 1. In addition, Machata adjusts the pH of the agglomeration solution before heating, which applicants' alleges "softens the surface of the toner sufficiently so that the surface protrusions on the toner particle can be formed." See Paper No. 10, page 10, lines 14-17.

As discussed above, Machata's toner meets the physical limitations recited in instant claims 8-10 and 14. Said toner was shown to have good fixability at 130°C, and no offset was observed up to 230°C. Col. 19, lines 54-55. In addition, the toner continuously provided 10,000 images with good image quality and with little or no fog. Col. 19, lines 50-54. Thus, it appears that Machata's toner provides the same properties sought by applicants.

Accordingly, it is reasonable to presume that the toner in Machata's example 2 has protrusions, the amount of wax, and the surface property index as recited in the instant claims. The burden is on applicants to prove otherwise. Fitzgerald, supra.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (703) 308-3625. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (703) 308-2464. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9311 (Rightfax) for after final faxes, and (703) 872-9310 for other official faxes.

Any inquiry of papers not received regarding this communication or earlier communications, or of a general nature or relating to the status of this application or proceeding should be directed should be directed to the Customer Service Center of Technology Center 1700 whose telephone number is (703) 306-5665.

Janis L. Dote
JANIS L. DOTE
PRIMARY EXAMINER
GROUP ~~1500~~ 1700

JLD
February 23, 2003